

CAT 4 RESOURCE DEVELOPMENT

Group 4-072

Project Health Supplements

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ABSTRACT

Project Health Supplements is an interactive, intuitive and user-friendly online website which aims to educate Singaporean teenagers about the harms of health supplements, particularly laxatives and protein supplements, with the aim to allow them to make informed decisions and achieve good health outcomes without such supplements. Our site houses comprehensive information regarding facts about health supplements, their dangers, and healthier alternatives to them. Audience interest is maintained through creative, interactive means such as downloadable custom wallpaper infographics to allow users to remind themselves of the dangers of health supplements, offline slides for them to share with friends, quizzes to increase memory retention, a sleek website design and relevant images to pique interest. Content quality is not sacrificed, however. Not only does our information come from a variety of well-regarded sources, expert review allows us to avoid oversimplification, and assure correct facts.

1 INTRODUCTION

1.1 Rationale

The rise of health supplements is caused by decreased trust in conventional medicine^[1], as well as an increase in people's attention to well-being and self improvement.^[2] The pandemic has also increased the number of youth using health supplements as a means to lose weight or bulk up^[3], as more teens spend time at home, and as a result, some may focus on^[4] improving their health. Additionally, the internet has enabled health supplement peddlers to increase their reach and influence, allowing them to sell to a wider audience through online platforms--many of them unregulated. Critically, there is also a lack of comprehensive online resources regarding the dangers of health supplements-- an important consideration in the development of this project

1.2 Objectives

The primary objectives of the project is to educate Singaporean teenagers on the following:

- What health supplements are and why people take them
- The dangers and effects of health supplements
- Healthier, alternative ways users can switch to, to achieve the same effect
- Discourage teens from taking these supplements

1.3 Target Audience

We targeted Singaporean teenagers, due to accessibility and our knowledge of them in the local context. Teens are more prone to taking health supplements as many have low self-esteem and body image issues that they want to improve through supplements. For example, from our personal experiences, many teenage athletes aim to grow more muscles, and therefore begin taking protein powders in order to grow more muscles. However, some of them begin taking these supplements excessively which can cause harm to their bodies. Teens are also the most impressionable; just as they might mistakenly imbibe misleading information about health supplementation, so too can they learn and modify their behaviours rapidly, allowing this project to potentially have a large impact on consumer behaviour.

1.4 Resources

The website resource (Fig. 1) created for this project contains an introduction to health supplements, a balanced discussion of their benefits and drawbacks alternatives, and quizzes (Fig. 2) for both laxatives and protein supplements.



Fig. 1

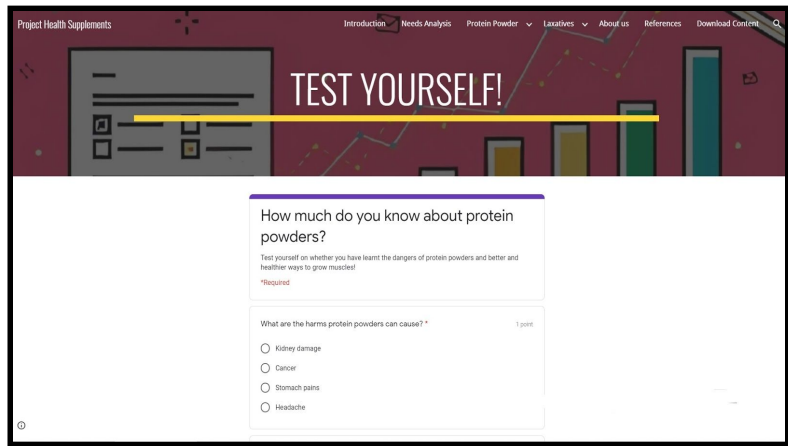


Fig. 2

We have also made a downloadable offline PowerPoint presentation, wherein users are able to decide the route of navigation around the information. By clicking on the blue bubbles of their choice, they will then be transported to respective hyperlinked slides.

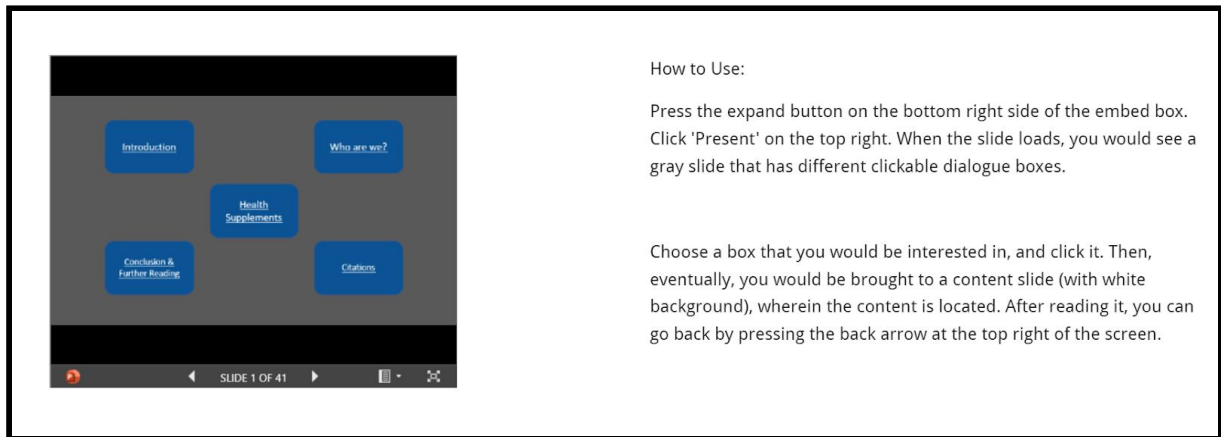
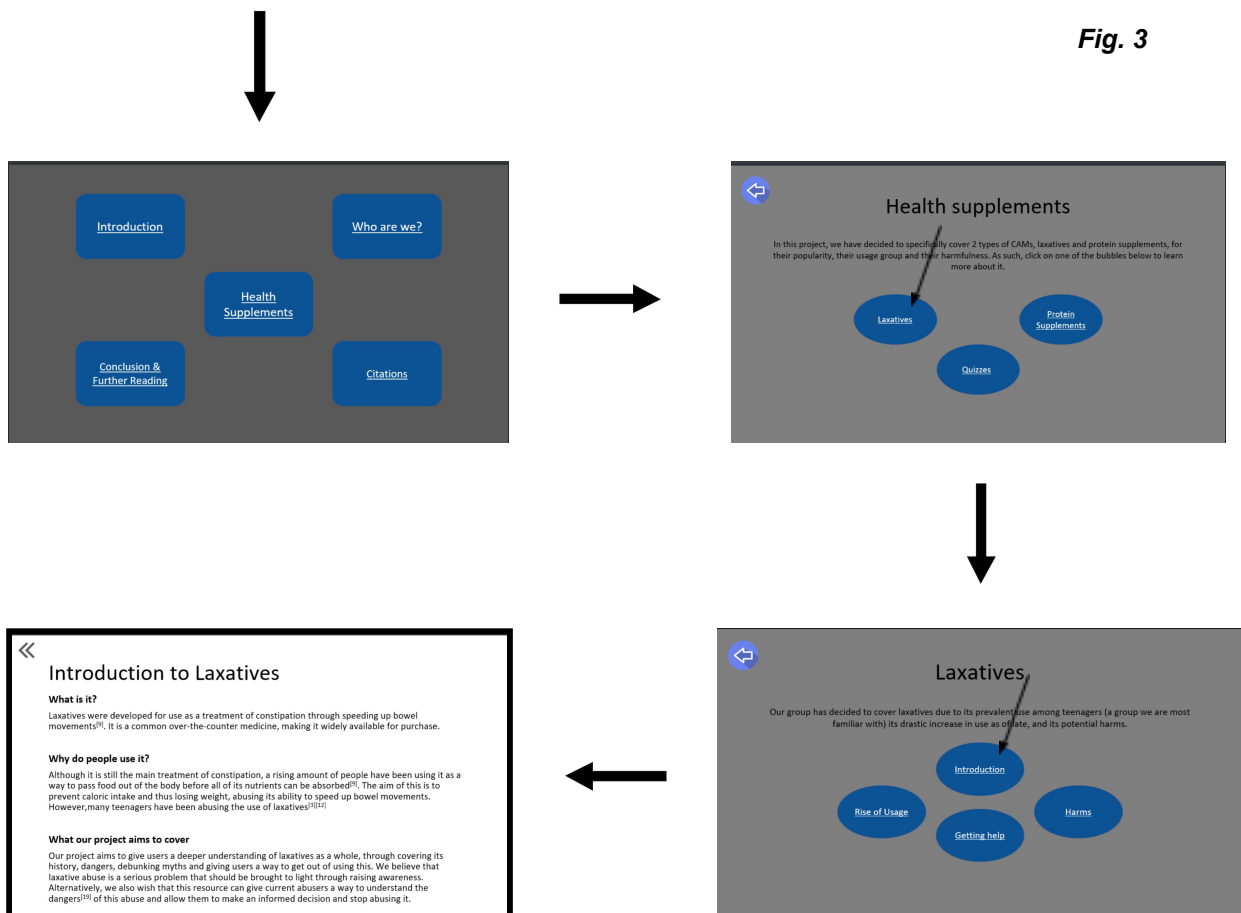


Fig. 3



: Point where mouse is clicking

2 REVIEW

According to our own research into the HCI PW archives, there has yet to be any project surrounding the theme of health supplements. Even online, there are plentiful news articles addressing the issue, yet they cover this topic unsatisfactorily; often only covering one small part of the large topic of health supplements, and are prone to oversimplification. Relevant scientific literature, while in-depth, is complicated and content heavy. Our project instead aims to have the best of both worlds; making a comprehensive, yet user-friendly and easy to understand resource that doubles as both an introductory to it as well as a place for in-depth reading for specific types of health supplements.

3 METHODOLOGY

3.1 Needs Analysis

We faced difficulty in getting qualitative responses in regards to users' experiences with protein powders and laxatives, mainly due to the negative social stigma surrounding this issue, which was further exacerbated by the COVID-19 restrictions restricting our ability to reach out to people in real life. As such, our needs analysis only contains a quantitative survey for the topic of health supplements as a whole, some qualitative responses for users of protein supplements, as well as background research

3.1.1 Survey Results

Do you take laxatives in order to lose weight?

62 responses

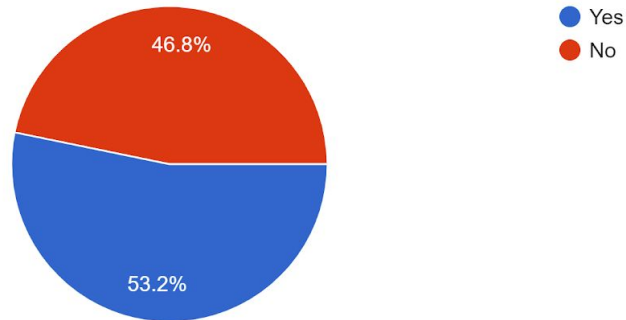


Fig. 4

Are you aware of the dangers and harms that these products can cause to your body

62 responses

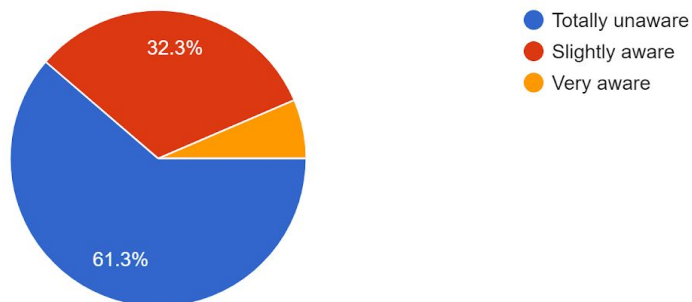


Fig. 5

While more than half of the respondents in our survey take laxatives in order to lose weight (Fig 4), 61.3% of the respondents do not understand the dangers health supplements can pose (Fig 5). Hence, there is a need for a project to help these consumers to understand how certain health supplements may not be as beneficial as they think and also the dangers the health supplements may bring.

“I feel that Protein shakes are very useful and i usually try to drink them after every training as i would want to grow stronger and bigger.”

-Goh Kai Yi (Singapore Taekwondo Federation Youth Team)

“I often take protein shakes after training as I often see many of my peers taking it and I believe these protein shakes can help me grow stronger.”

-Wong Hong Kai (Singapore Youth Team Waterpolo)

“I take protein shake as i need to grow bigger and build muscles in order to go up against stronger opponents”

-Tang Yee Ray (Singapore Youth Team Waterpolo)

“I feel that by taking protein shakes,I will be able to grow taller and stronger hence, I drink protein shakes after trainings.”

-Gavin Ong (Hwa Chong Basketball)

Fig. 6

As shown in Fig. 6, the need from our project is also shown through the qualitative responses that we have collected. Most participants did not recognize the dangers of protein powders and in doing so, continue taking it frequently. As such, a resource is needed to demonstrate to them its dangers and educate them to stay away from it for their health.

3.1.2 Background Research

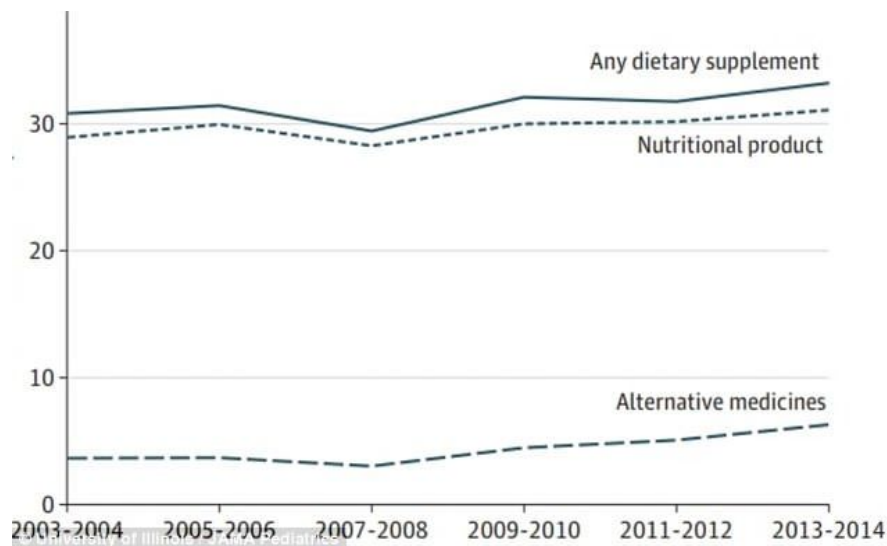


Fig. 7

As shown in Fig. 7, nearly 33% of teens take at least one dietary supplement from the period of 2003 to 2014 (n=7045). Furthermore, Melatonin and Omega/Fatty Acid tablets, which are also abused as a method of losing weight have seen an increase in consumption, doubling over ten years from 3.7% in 2004 to 6.3% in 2014.

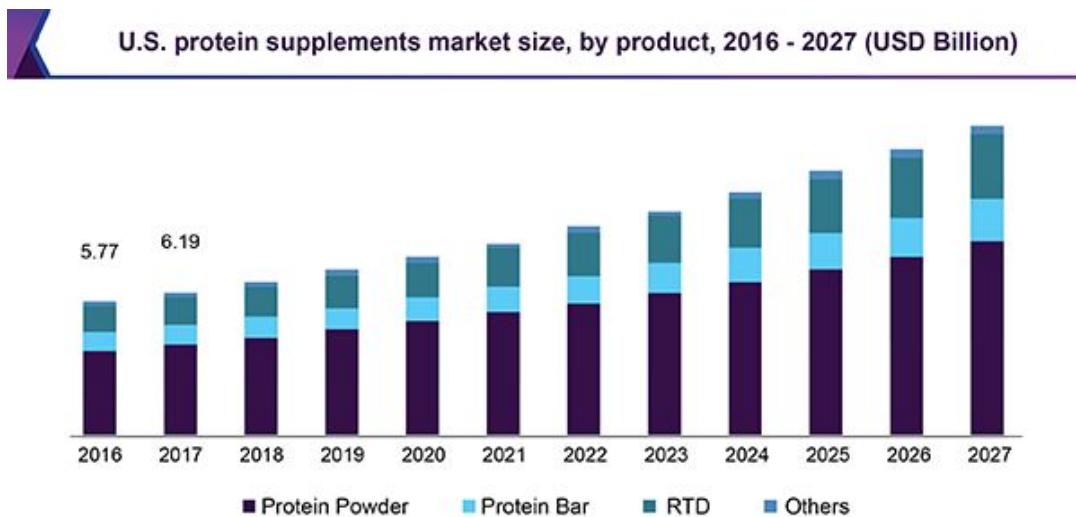


Fig. 8

As shown in Fig. 8, the global protein supplements market size was estimated at USD 17.55 billion in 2019, driven by an increase in health and fitness centers and consumer health consciousness. Increasing popularity among millennials, coupled with numerous health benefits of the product are some of the major factors driving the growth

3.2 Construction of Resources (Timeline)

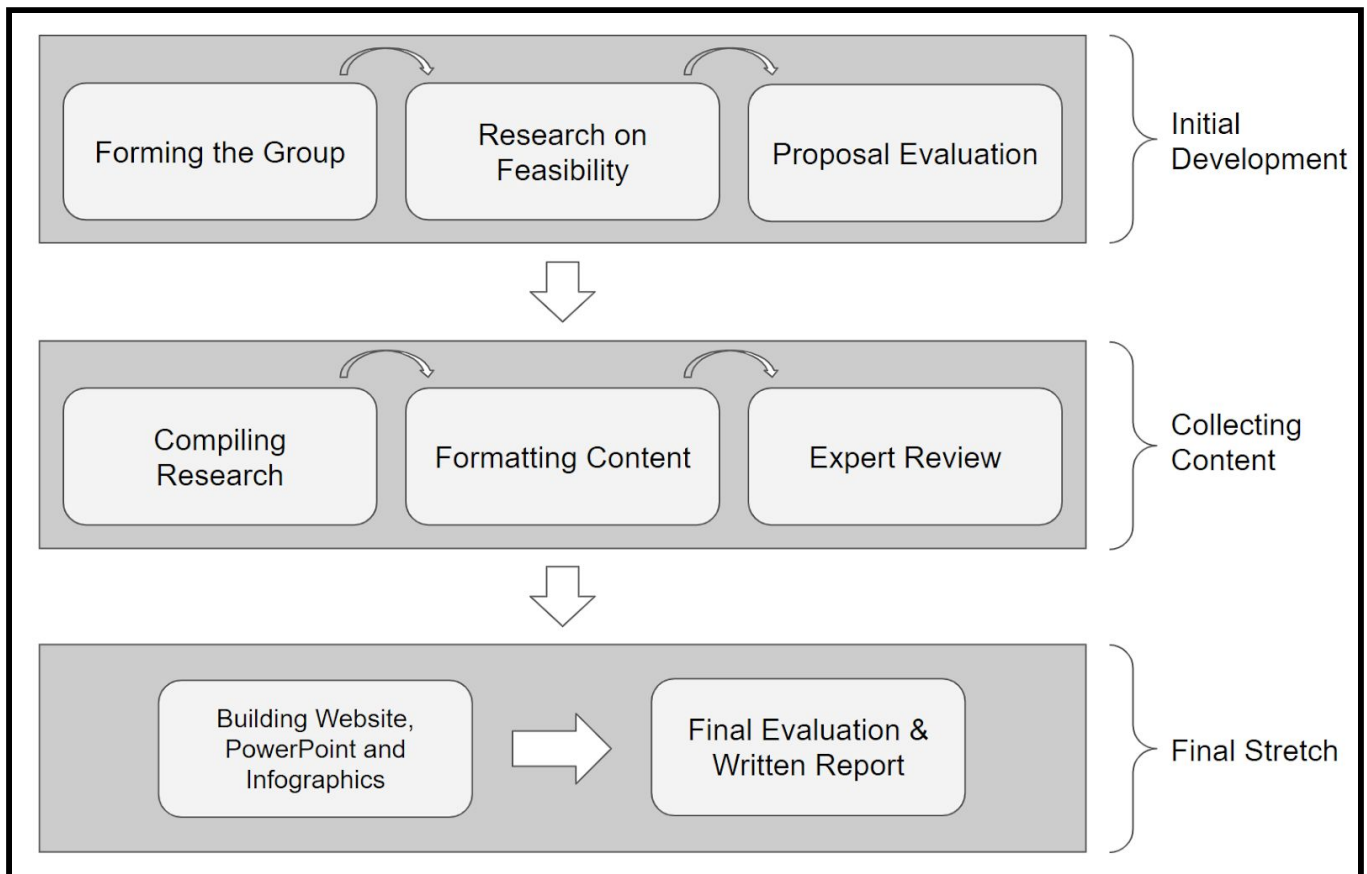


Fig. 9

With the surveys and background information that we have gathered, we decided to create a website that includes the basic description of the 2 most common health supplements consumed around the world (Protein Powder and Laxatives), benefits and dangers these 2 health supplements may bring, healthier alternatives for consumers to consider rather than the 2 supplements, a quiz to test users' knowledge after looking through our website and possible reasons on why consumers choose to take these 2 supplements.

3.3 Pilot Test

A pilot test was administered to approximately 100 upper secondary students. A product demo was conducted where the online platform and associated resources were shown, and their views sought on whether our website was effective. Recommendations from the students were incorporated into the fine-tuning of the

online platform. Generally the feedback was positive and students knew more about protein powders and laxatives after looking through our website.

<p>“I feel that the website has helped me understand the dangers of protein powders and I understand that I should not take them excessively.” <i>-Goh Kai Yi (Singapore Taekwondo Federation Youth Team)</i></p>
<p>“I Strongly believe that this website is very useful especially for us teenage athletes as it guides us about the dangers of protein powders and also provides us with some changes I can make to my diet to gain more proteins ” <i>-Wong Hong Kai (Singapore Youth Team Waterpolo)</i></p>
<p>“I think your product is certainly interesting, and I did learn quite a bit about it (especially the harms). I think from now on while I do rely on it for training, I will definitely cut down on my intake of it, as much as possible.” <i>-Tang Yee Ray (Singapore Youth Team Waterpolo)</i></p>
<p>“I think the ppt is quite cool (it reminds me of those choose your own adventure books), and was quite informative as well, especially that the alternatives are viable and I can understand its harms. Like Yee Ray said, I’ll try to cut down my intake as well.” <i>-Gavin Ong (Hwa Chong Basketball)</i></p>

Fig. 10

Have you understood the dangers laxatives(1 not understanding at all and 5 being understanding fully)

49 responses

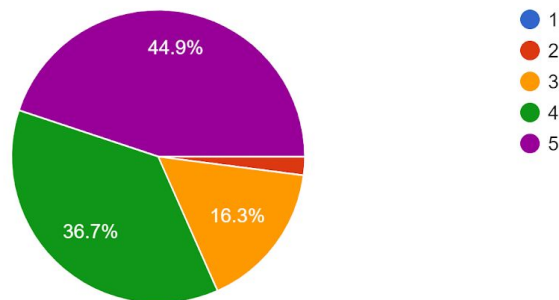


Fig. 11

Fig. 10 and Fig. 11 shows that our website was effective in helping students understand the dangers of laxatives.

I will avoid taking laxatives in the future
49 responses

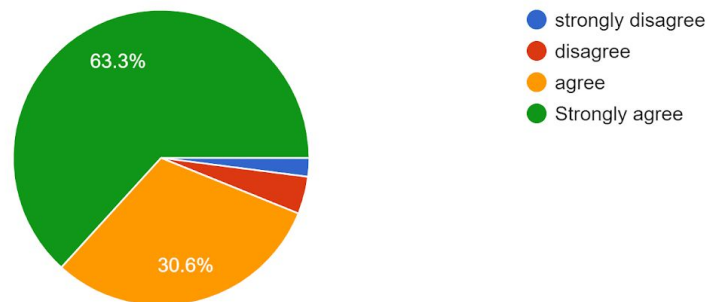


Fig. 12

Fig. 12 shows that our website was effective in educating students in avoiding harmful substances, in our case, laxatives.

Therefore, we can conclude that our website is effective in the education of protein powders and laxatives overall, and that it has been proved effective by the users who had used our website in the pilot test.

4 OUTCOME & DISCUSSION

Our final outcome consisted of 3 parts: website, downloadable slides and handy infographics. The website was built in Google Sites, and we used PowerPoint for slides. The slides worked by using hyperlinks to allow users to dive deeper into what they wanted to find out. Both mediums contains:

- Introduction to health supplements
- Specifics of laxatives & protein supplements
 - Statistics on rise of usage
 - Side effects & harms
 - Ways to get help & alternative methods
- Quizzes
- Further reading & references

The sleek yet informative infographics are downloadable and designed to be set as phone wallpapers to allow the user to show others and remind themselves of the dangers and other information surrounding health supplements.

However, some limitations we recognized are its lack of content covering other types of health supplements, and the potential for it to be boring as it is content heavy and the slides do not have much images. Thus, we believe further work could be done to improve its content comprehensiveness (by adding more types of health supplements), and make it even more interesting by adding pictures to the slides, and even more interesting through a more casual prose or interesting elements such as public polls on slides and pop quizzes sprinkled throughout the slides.

5 CONCLUSION

Project Health Supplements has been a challenging task to undertake. In the beginning, we had difficulty finding primary sources that had experience using health supplements. While compiling the research, we had to gain a deeper understanding ourselves to precipitate points and translate them into a simpler language. Furthermore, our promise of accurate content meant we had to set stringent requirements in research and writing to ensure quality and simplicity. We also had difficulty building a website from the ground up, and had to learn to use Sites to work effectively. We also struggled to emb the slides into a downloadable format onto the sites, and had trouble finding a way to ensure the slides hyperlinks worked in both phones, tablets and PCs. Yet, we persevered and learnt many skills in the process, such as using creativity to find interactive means to display our resources, teamwork to have research and development pairs to co-operate to work efficiently together. The technical challenges we overcame also taught us how to design a website, meaningful infographics and to work PowerPoint efficiently.

6 REFERENCES

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